

California Electrical Examinations Statistical Overview 2011

Background: PSI began administering the following California Electrical examinations in 2009: General Electrician, Residential Electrician, Non-Residential Lighting Technician, Fire-Life Safety Technician, and Voice Data Video Technician. PSI currently administers both an English and a Spanish version of each of these examination. PSI does not currently develop the California Electrical examinations.

Statistical Review of the Examinations: PSI recently conducted a statistical review of the California Electrical examinations from 2009 to October 2011. The statistical results are compiled in the table below.

Exam	Annual # of Attempts	Test Length	First Time Pass Rate	Repeat Pass Rate	Average P-Value	Average PBIS	Average Item N
General Electrician	6,650	100	34.65 %	39.55 %	0.6485	0.319	2,060
General Electrician – SPANISH	100	100	0 %	0 %	0.4040	0.224	28
Residential Electrician	350	80	24.48 %	28.13 %	0.5605	0.252	117
Residential Electrician - SPANISH	40	80	3.85 %	0 %	0.4190	0.1581	12
Non-Residential Lighting Technician	190	50	50.89 %	76.92 %	0.6308	0.388	63
Non-Residential Lighting Technician - Spanish	16	50	0 %	0 %	0.3973	0.186	7
Fire-Life Safety Technician	460	50	73.09 %	84.62 %	0.6595	0.285	243
Fire-Life Safety Technician – Spanish	2	50	0 %	100 %	0.5985	0.046	1
Voice Data Video Technician	270	50	64.16 %	80.0 %	0.6425	0.373	103
Voice Data Video Technician - SPANISH	0	50	N/A	N/A	N/A	N/A	N/A

The statistics listed in each of the table's columns is described below:

Annual # of Attempts: The approximate number of candidates (both first time candidates and repeat candidates) taking the exam each year.

Test Length: The number of items in the test.

First Time Pass Rate: The passing percentage of those candidates taking the test for the first time. Note: The First Time Pass Rates are based on the current versions of the examination that became operational on January 1, 2011.

Repeat Pass Rate: The passing percentage of those candidates taking the test for the second (or more) time. Note: The Repeat Pass Rates are based on the current versions of the examination that became operational on January 1, 2011.

Average P-Value: The average number of candidates that get each test question correct

Average PBIS: The biserial correlation is an indication of how well each item differentiates between the good candidates and the poorer candidates. These correlations can from -1.00 (negatively correlated) to 0 (no correlation) to +1.00 (positive correlation). For exams with a high enough sample size (over 30), an average PBIS over 0.20 is acceptable, and an average PBIS over 0.30 is considered to be good.

Average Item N: The average number of candidates that have taken each item. Statistics generated from sample sizes below 30 are typically regarded as being unstable.